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Highlights of Dairy 2007 Part II: Changes in the U.S. Dairy Cattle Industry, 1991-2007

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In 2007, the National Animal Health Monitoring System (NAHMS) conducted a study of U.S. Dairy Operations. The Dairy 2007 study collected data on dairy health and management practices from 17 of the Nation's major dairy States.* These States represented 79.5 percent of U.S. dairy operations and 82.5 percent of U.S. dairy cows.

The following highlights were excerpted from the report released in February 2008: Dairy 2007 Part II: Changes in the U.S. Dairy Cattle Industry, 1991-2007. Part II identifies changes in the dairy industry from 1991 to 2007, and specifically addresses changes identified from four NAHMS dairy studies: NDHEP 1991, Dairy 1996, Dairy 2002, and Dairy 2007.

General trends

- Approximately 4 to 7 percent of dairy operations have gone out of business each year since 1991. Since 1991, the number of dairy operations decreased by 58.4 percent, while January 1 milk cow numbers in 2007 were at 93.8 percent of 1992 numbers. In this time frame, milk per cow increased by 32.7 percent and total milk production increased by 23.1 percent.
- From 1991 through 2006, milk prices paid to producers ranged from a low of \$11.00 per hundred pounds of milk from March through June 2003 to a high of \$19.30 in May of 2004. On average, milk prices during this time were between \$13.00 and \$14.00.

Changes by State

- States in the Western United States have shown the largest growth in the number of milk cows since 1992. Arizona, California, Colorado, Idaho, Kansas, Nevada, New Mexico, Oregon, and Utah have all increased cow numbers since 1992. States in the

*California, Idaho, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, New Mexico, New York, Ohio, Pennsylvania, Texas, Vermont, Virginia, Wisconsin, and Washington

Southeast, including Alabama, Arkansas, Louisiana, and Mississippi, had the largest percentage decline in dairy cows, but these States represented less than 5 percent of the overall dairy population. In 2007, California had the largest number of dairy cows (1.79 million) followed by Wisconsin (1.25 million) and New York (628,000).

- With the exception of Alaska, the number of dairy operations in all States has decreased since 1991. In 2006, Wisconsin had the largest number of dairy operations (14,900) followed by Pennsylvania (8,700) and New York (6,400). California reported 2,300 operations, but had the highest number of dairy cows, demonstrating a large number of cows per herd.
- Average dairy herd sizes in 2006 ranged from 20 cows in Alaska to 875 in Arizona. The U.S. average dairy herd size in 2006 was 121.5 cows, more than double the average in 1991 (53.9 cows).

Productivity

- In 2007, the average days dry at the operation level and cow level was 57.8 and 58.5 days, respectively. These averages represent a decrease of about 3 days since 1991.
- The practice of separating newborn heifer calves from their dams immediately after birth doubled from 1991 to 2007 (28.0 and 55.9 percent of operations, respectively).

Heifer management

- Operations provided calves approximately the same amount of colostrum during the first 24 hours of life from 1991 to 2007, with approximately one-quarter of operations feeding 2 quarts or less and about one-third feeding 4 or more quarts.
- The age of heifers at weaning has remained relatively steady since 1996.
- Operation use of specific preventive practices for heifers has remained stable or increased since 1991. The largest increases in the use of preventive practices were observed for vitamins A-D-E in feed and selenium in feed (figure 1).

Heifer health

- The number of calves born alive as a percentage of cow inventory decreased from 93.4 percent in 1996 to 86.0 percent in 2007.
- The percentages of unweaned and weaned heifer calves that died decreased from 1996 to 2007. The percentage of unweaned calves that died decreased from 10.5 percent in 2002 to 7.8 percent in 2007. Weaned heifer calf deaths increased from 2.2 percent in 1991 to 2.8 percent in 2002 and then decreased to 1.8 percent in 2007.

Cow management

- The percentage of operations that used a parlor as a primary milking facility increased from 28.8 percent in 1996 to 39.5 percent in 2007, while the percentage of operations that used a tiestall or stanchion decreased from 69.5 to 60.3 percent during the same period. A larger shift was observed in the percentage of cows, as 54.9 percent of cows were milked in parlors in 1996 compared with 78.2 percent in 2007.
- Since 1996, the use of dewormers, selenium injections, and probiotics increased while vitamin A-D-E injections decreased. In 2007, 95.3 percent of operations administered any preventive compared with 91.5 percent in 1996 (figure 1).

Cow health

- The percentage of cows with clinical mastitis, lameness, respiratory problems, infertility problems, or displaced abomasum increased from 1996 to 2007. The percentage of cows with diarrhea for more than 48 hours or milk fever decreased from 1996 to 2007.
- The percentage of cows that died increased across herd sizes from 1996 to 2007. The overall percentage of cows that died increased from 3.8 percent in 1996 to 5.7 percent in 2007.
- The percentage of cow deaths due to lameness or injury increased from 12.7 percent in 1996 to 20.0 percent in 2007. Conversely, the percentage of cow deaths due to calving problems and other known reasons decreased from 1996 to 2007.

Biosecurity

- No changes occurred from 1996 to 2007 in the percentage of operations that vaccinated new additions for BVD, IBR, and leptospirosis before the cattle were brought onto the operation. Approximately one-third to one-half of operations vaccinated for the diseases mentioned above. The percentages of operations that vaccinated for brucellosis decreased for each herd size from 1996 to 2007.
- Brucellosis testing for new additions decreased across herd sizes between 1996 and 2007. Tuberculosis testing has also decreased for small, large, and all operations since 1996. Testing for *Mycobacterium avium* subspecies *paratuberculosis* and BVD remained unchanged from 1996 to 2007. The percentage of operations that performed any testing decreased for small, large, and all operations since 1996, with less than 1 in 4 operations that purchased new additions (23.3 percent) performing any testing during 2007.

Visit the NAHMS Web site at: <http://nahms.aphis.usda.gov> for a complete copy of Part II: Changes in the U.S. Dairy Industry, 1991-2007.

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Figure 1. Percentage of Operations by Preventive Practices Normally Used for Cows

